

Measurements and Collecting Data of the Holotype and Paratypes of
Cypraea tigris schilderiana CATE, subspec. nov.

	Length	Width	Height	Depth	Location	Substrate
	(in Millimeters)			(in Feet)		
Holotype:	126.1	87.7	73.1	48	Koko Head, Oahu	lava
Paratype 1:	131.5	91.3	74.0	40	Waikiki, Oahu	lava
Paratype 2:	129.7	86.6	69.5	45	Koko Head, Oahu	coral and lava
Paratype 3:	124.0	84.8	68.2	40	Koko Head, Oahu	ceiling of volcanic ledge
Paratype 4:	124.0	88.1	71.0	35	Nanakuli, Oahu	lava shelf
Paratype 5:	120.0	85.5	67.8	35	Koko Head, Oahu	lava
Paratype 6:	115.5	79.1	69.0	35	Makua, Oahu	lava and coral
Paratype 7:	113.9	80.7	63.9	40	Makua, Oahu	coral slab
Paratype 8:	109.8	71.7	58.3	8	Keei, Hawaii	in an open coral pocket
Paratype 9:	108.1	74.0	59.5	30	Waialua Bay, Oahu	on lava ledge at sand pocket
Paratype 10:	106.8	71.0	59.8	35	Maunaloa Bay, Oahu	just off reef in coral and lava rubble

Acknowledgment

It gives me pleasure to name this new Hawaiian subspecies for Dr. F. A. Schilder, who called to my attention the need for this emendation. I also wish to thank Dr. Rudolf Stohler for his suggestions and encouragement in its preparation, and one other whose help and devotion are indispensable.

Literature Cited

Cate, Crawford N.

1961. Redescription of *Cypraea tigris lyncichroa* Melvill, 1888. *The Veliger*, Vol. 3, No. 3, pp. 66-69, Pl. 11.

Fulton, Hugh C.

1928. Notes on some varieties of *Cypraea tigris* Linné, and *Cypraea vinosa* Gmelin, *Journal of Conchology*, Vol. 18, No. 10, p. 290.

Notes & News

An Unusual Antarctic Chiton

by

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Through the courtesy of Dr. Rudolf Stohler of the University of California I have had the opportunity to study three specimens of a small reddish chiton from Antarctica. These have been identified as *Tonicina zschau* (Pfeffer, 1886), which was described originally from South Georgia Island in the Falkland Group. It has also been reported by Thiele from Booth-Wandel Island. The present material comes

from:

Melchior Island, Antarctica. Two specimens in alcohol collected by M. Neushul, 13 February 1958.

Almirante Brown, Palmer Peninsula, Antarctica. A single specimen now in alcohol but valves in poor condition from initial preservation in formalin, collected by M. Neushul at 50 feet depth, 13 February 1958.

Both of the Melchior specimens are well preserved. One measures 12.3 mm. in length and 4.8 mm. in width. The other, somewhat curled, is about the same size. According to Thiele (1909, page 19) the slit formula of *Tonicina zschau* is 14:1:11. As a check, the curled specimen was partly disarticulated by removing valves i, ii, and viii. These show slits numbering 14 in the head valve, one on each side of valve ii, and eight in the tail valve, or a slit formula of 14:1:8. The difference in the number of slits in the tail valve of Thiele's figured spe-

cimen and the one from Melchior Island may be well within the range of individual variation in the species.

The slits are more or less rectangular in shape and rather deep for the size of the valves. Well defined slit-rays converge from the base of the slits to the valve apices, these being especially prominent on the inside of the head valve. The teeth between the slits are only moderately sharp and are smooth.

Ventrally, the valves are rose-colored except for the small insertion plates and sutural laminae, and except also for the teeth themselves from their margins to the depth of the slits, which are whitish. Eave tissue is quite spongy. In the Palmer Peninsula specimen, because of the method of initial preservation, what appear to be microaesthetes show up in profusion in the dissolved tegmentum under a magnification of X 90.

The girdle of specimens from Melchior Island is uniquely decorated with a narrow band of extremely minute, black, scale-like processes that contrast markedly with the beige coloration of the remainder of the girdle, a feature best seen with some magnification. In the Palmer Peninsula specimen this band is wider, with the black dots less concentrated and more dispersed over almost the entire girdle. The groove in the girdle, illustrated in cross-section by Bergenhayn (1937, fig. 1), shows up well in this specimen, as also do the minute, delicate, pointed spicules widely scattered over the girdle near its margin.

Gills extend almost the entire length of the foot and number about 19 on each side in the curled specimen from Melchior Island. In the one from the Palmer Peninsula, however, the gill count is about 24.

Pilsbry (1893, p. 205) rightly questioned his placement of *Tonicina zschau* in the genus *Tonicia*, which is characterized by the presence of small, black eye-dots (megalaesthetes) on the tegmentum surface of the valves. No such eye-dots occur on any of the three specimens at hand. The present assignment of the genus *Tonicina* to the family Ischnochitonidae (Smith, 1960, p. 166) seems proper, as well as its relationship close to the northeastern Pacific genus *Tonicella*, small specimens of which it resembles superficially except for being longer in relation to width.

Tonicina zschau is the type species of the genus *Tonicina* Thiele, 1906. It is beautifully figured, enlarged and in color, by Bergenhayn (1937, fig. 2). Although but few specimens are reported to have been collected, it is suspected that the species is not at all rare at moderate depths. The present material extends the range of the species to the Antarctic continent proper, well within the limit of drift ice.

Literature Cited

- Bergenhayn, J. R. M.
1937. Antarktische und Subantarktische Polyplacophoren. Det Norske Videnskaps-Academi i Oslo. Scient. Res. Norwegian Antarctic Exped. 1927-1928 et sqq., instituted and financed by Consul Lars Christensen, No. 17, pp. 1-12, figs. 1-3 in color.
- Pfeffer, Georg [Johann]
1886. Die Krebse von Süd-Georgien nach der Ausbeute der Deutschen Station 1882-1883. Jahr. Hamb. Wiss. Anst. 4, p. 105, taf. 3, fig. 2. (Quoted from Bergenhayn, 1937)
- Pilsbry, Henry A.
1893. Polyplacophora (Chitons). (In Tryon's Manual of Conchology, vol. 14, pp. 204-205, pl. 40, fig. 12. Philadelphia. February 25.
- Smith, Allyn G.
1960. Amphineura. Treatise on Invertebrate Paleontology, Pt. I, Mollusca 1, p. 158. Geol. Soc. Am. and Univ. Kansas Press. August 20.
- Thiele, Johannes
1906. Note sur les Chitons de l'Expedition Antarctique du Dr. Charcot. Bull. Mus. d'Hist. Nat., vol. 12, pp. 549-550. Paris.
- _____, _____
1909. Die Antarktische und Subantarktische Chitonen. Deutsche Südpolar-Expedition, 1901-1903, Bd. 10, Zoologie, Bd. 2, Heft 1, no. 2, pp. 18-20, 22, pl. I, figs. 37-47.
- _____, _____
1928. III. Beziehungen zwischen arktischen und antarktischen Loricaten, Gastropoden, Scaphopoden, und Bivalven. Fauna Arctica, Bd. 5, Lief. 2, p. 628. Jena (Gustav Fischer). August 3.
- _____, _____
1931. Classis Loricata. Handb. syst. Weichtierkunde, vol. 1, p. 19. Jena.